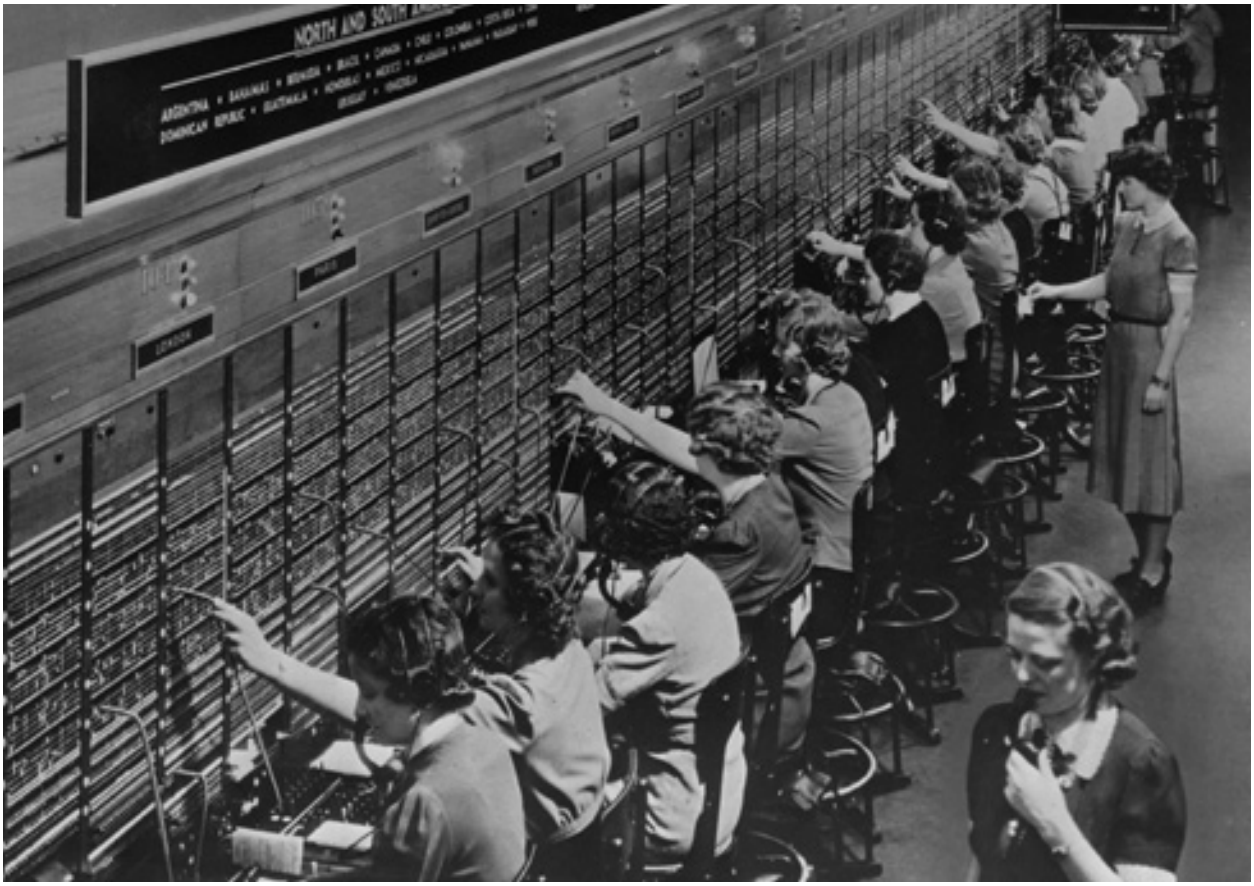
USING TECHNOLOGY *to* AID CLASSIFICATION *and* DECLASSIFICATION

The digital age has revolutionized the way information is created, stored, transmitted, and accessed. Processes for classification, declassification, and records management have not kept pace. Defining a record based on informational, evidentiary, intrinsic, and historical value is much more complicated in the digital environment, often creating all-or-nothing retention practices at agencies because of outdated guidance that does not address the complexities of streaming data creation, platform generation, or the other complexities of the emerging "Big Data" era.[41] Management and preservation of electronic records are of serious concern to agencies, as are the overwhelming volume of records awaiting review and the complexity of record formats. These factors all conspire to make the costs of manual declassification review prohibitive.

In the digital age, the approach to managing historical records requires much foresight. The many complexities of information creation and dissemination may mean we have to redefine permanently valuable records, in order that agencies have the guidance needed to identify and preserve historically significant information buried in a mass of digital information. The Government is only now entering the digital records era in their declassification processes, and the nature and character of contemporary information technology and communications offer both challenges and promise.

The search for technological solutions to classification and declassification problems must be driven by a larger vision that brings together all the component processes in the security classification system. Solutions will have to emerge from collaboration among technologists, archivists and records officers, human factors experts, historians, and national security departments and their classifiers and declassification reviewers. Reforms need to accommodate the requirement for continued improvement in government efficiencies, driven by what will likely be a resource-constrained future, but one where modern technology is essential to declassification and data discovery processes of all types.

Agencies face the rapid obsolescence of formats as paper records transition to digital media. Methods of preservation and access to old records will necessarily have to yield to innovative and sometimes costly strategies to make the transition. This extends beyond just email and current textual media, to the expanding world of audio, video, imagery, graphics, and video/audio-teleconferencing where many decisions of historical significance are made and little is now preserved for future access.



Technological innovation is simply a matter of necessity in order to achieve transformation in classification and declassification. Existing technologies, such as predictive analytics, automated metadata creation, content clustering, and context accumulation, may enhance consistency in classification and declassification, facilitate rapid information retrieval, improve information security, and hasten declassification in the electronic environment.[42]

Metadata are especially critical to future high-speed data manipulation. Users must understand how metadata are generated and used in a system, and be able to distinguish the varying levels of classification found in metadata tags. Highly classified metadata should be studied to determine their usefulness in understanding the information they describe and in their ability to aid access to that information. Because the sensitivity of highly classified metadata is likely to outlive the sensitivity of the information they describe, such metadata may need to be segregated from unclassified metadata in order to facilitate information sharing and declassification. Great promise comes with the digital era for data and metadata tagging, indexing and cross-indexing, searching, mass storage, inference, and other rules-based applications to assist declassification, access, convergence, and aggregation of media, and access by historians and public interest activities. Progress will require agencies to collaborate on policy, to share technologies, to promote best practices, and to develop common standards.

[RECOMMENDATION 14]: *The President should direct the Security Classification Reform Steering Committee to encourage collaboration and to determine how to employ existing technologies, and to develop and pilot new methods to modernize classification and declassification.* Pilot projects that test new technological solutions should inform a government-wide technology strategy for classification and declassification that will thoroughly streamline information management and access for all system users and, after declassification, for the public. Beginning at the NDC, these projects should be designed to advance the objectives of a transformed classification system. The projects should move forward as quickly as possible and, based on results, be expanded and deployed

at several agencies. The ultimate goal of the pilot projects is to discover, develop, and deploy technology that will:

- Automate and streamline declassification and classification processes, and ensure integration with electronic records management systems.
- Provide tools for preservation, search, storage, scalability, review for access, and security application.
- Address cyber security concerns, especially when integrating open source information into classified systems.
- Standardize metadata generation and tagging, creating a government-wide metadata registry, drawing on lessons learned from the intelligence community.
- Accommodate complex volumes of data (e.g. email, non-structured data, and video teleconferencing information).
- Advance government-wide information management practices by supporting the President's Memorandum on Managing Government Records.[43]